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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/04/2001

Eric Lais

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05/18/2005

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EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/971,984

Applicant(s)

LAIS ET AL.

Examiner

Ted M. Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 14, 16-19 and 21-31 is/are rejected.
- 7) ☒ Claim(s) 9, 12, 13, 15 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/5/02, 6/13/03, 8/11/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-7, 11, and 24-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- With regard claim 1, the limitation of "mapping said N multimedia streams across M decoders based on said coding rates, *wherein* $M < N$." as recited has not been taught in the specification. The specification merely teaches "One embodiment of the arbitration logic 2200 employs a static load balancing policy in which input streams are mapped to decoders 700 based on the rates of each of the input streams. More specifically, when the system is initialized, the arbitration logic 2200 maps streams to decoders such that each decoder handles the same (or approximately the same) combined data rate" as recited in page 67 lines 1-5.
- With regard claim 11, the limitation of "plurality of multimedia streams are greater in number than said plurality of decoders" as recited has not been taught in the specification. The specification merely teaches "One embodiment of the

arbitration logic 2200 employs a static load balancing policy in which input streams are mapped to decoders 700 based on the rates of each of the input streams. More specifically, when the system is initialized, the arbitration logic 2200 maps streams to decoders such that each decoder handles the same (or approximately the same) combined data rate" as recited in page 67 lines 1-5.

- With regard claim 24, the limitation of "means for mapping said plurality of multimedia streams among a lesser plurality of decoders based on said coding rates of each of said multimedia streams" as recited has not been taught in the specification. The specification merely teaches "One embodiment of the arbitration logic 2200 employs a static load balancing policy in which input streams are mapped to decoders 700 based on the rates of each of the input streams. More specifically, when the system is initialized, the arbitration logic 2200 maps streams to decoders such that each decoder handles the same (or approximately the same) combined data rate" as recited in page 67 lines 1-5.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (US 5,745,645).

- With regard claim 8, Nakamura et al. discloses a receiver apparatus comprising:

a plurality of decoders (Fig.3 elements 3800, 3100, and 3200) for decoding a plurality of multimedia streams (Fig.3 elements 2600, 2700, and 2800 and column 10 lines 24-38); and

arbitration logic (Fig.3 elements 2300, 2400, 2500, and 2900) to map each of said multimedia streams to each of said plurality of decoders based on processing load on each decoder and code rates of each of said multimedia streams (column 10 line 62 – column 12 line 19).

- With regard claim 14, Nakamura et al. discloses an apparatus comprising: buffers for storing multimedia data from said multimedia streams (column 10 lines 24-38) prior to decoding (Fig.3 elements 2600, 2700, and 2800); and arbitration logic (Fig.3 elements 2300, 2400, 2500, and 2900) to cause a particular multimedia stream (Fig.3 element 2600 or 2700 or 2800) to be serviced by a decoder (Fig.3 elements 3800, 3100, and 3200) based on the amount of multimedia data stored in one of said buffers for said particular multimedia stream (column 10 line 62 – column 12 line 19).
- With regard claim 16, Nakamura et al. further discloses one or more additional decoders (Fig.3 elements 3800, 3100, and 3200) to process multimedia streams responsive to said arbitration logic (column 10 line 62 – column 12 line 19).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

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subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,745,645) in view of the admitted prior art of the instant application.

- With regard claim 10, Nakamura et al. discloses all of the subject matter as described in the above paragraph except for specifically teaching said decoders are Viterbi decoders.

However, the admitted prior art of the instant application teaches that said decoders are Viterbi decoders (page 3 lines 12-17).

It is desirable that said decoders are Viterbi decoders in order to reduce the noise (page 3 lines 14-17). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by the admitted prior art of the instant application in which, said decoders are Viterbi decoders, into Nakamuras' decoder so as improve noise.

7. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,745,645) in view of Arsenault et al. (US 5,886,995).

- With regard claim 17, Nakamura et al. discloses all of the subject matter as described in the above paragraph except for specifically teaching multimedia stream are received from one or more satellite transponders.

However, Arsenault et al. teaches that multimedia streams are received from one or more satellite transponders (column 1 line 43 – column 2 line 3 and column 3 lines 5-67). Note that the RF signal received by the satellite transponder or cable is converted to a multimedia stream MPEG2 that has the same format as that of multimedia stream of the apparatus disclosed by Nakamura et al.

It is desirable that multimedia streams are received from one or more satellite transponders in order to improve quality and add more service within a given bandwidth (column 1 lines 43-45). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Arsenault et al. in which, multimedia streams are received from one or more satellite transponders, into Nakamuras' apparatus so as improve quality and add more service within a given bandwidth.

- With regard claim 18, Nakamura et al. discloses all of the subject matter as described in the above paragraph except for specifically teaching multimedia stream are received from one or more satellite transponders.

However, Arsenault et al. teaches that multimedia streams are received from one or more satellite transponders (column 1 line 43 – column 2 line 3 and column 3 lines 5-67). Note that the RF signal received by the satellite transponder or cable is converted to a multimedia stream MPEG2 that has the same format as that of multimedia stream of the apparatus disclosed by Nakamura et al.

It is desirable that multimedia streams are received from one or more satellite transponders in order to improve quality and add more service within a given bandwidth (column 1 lines 43-45). Therefore, It would have been obvious to one

of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Arsenault et al. in which, multimedia streams are received from one or more satellite transponders, into Nakamuras' apparatus so as improve quality and add more service within a given bandwidth.

8. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,745,645) as applied to claim 1 above, and further in view of Langberg et al. (US 5,852,630).

- With regard claim 19, Nakamura et al. discloses all of the subject matter as described in claim 1 except for the method written by a software program embodied in a computer-readable medium.

However, Langberg et al. teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implemented in software stored in a computer-readable medium. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 3, lines 51-65). One skilled in the art would have clearly recognized that the method of "Nakamura et al." would have been implemented in a software. The implemented software would perform same function of the hardware for less expense, adaptability, and flexibility. Therefore, it would have been obvious to have used the software in "Nakamura et al." as taught by Langberg et al. in order to reduce cost and improve the adaptability and flexibility of the communication system.

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- With regard claim 21, Nakamura et al. further discloses one or more additional decoders (Fig.3 elements 3800, 3100, and 3200) to process multimedia streams responsive to said arbitration logic (column 10 line 62 – column 12 line 19).

9. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,745,645) and Langberg et al. (US 5,852,630) as applied to claims 19 above, and further in view of Arsenault et al. (US 5,886,995).

- With regard claim 22, Nakamura et al. and Langberg et al. disclose all of the subject matter as described in the above paragraph except for specifically teaching multimedia stream is received from one or more satellite transponders. However, Arsenault et al. teaches that multimedia streams are received from one or more satellite transponders (column 1 line 43 – column 2 line 3 and column 3 lines 5-67). Note that the RF signal received by the satellite transponder or cable is converted to a multimedia stream MPEG2 that has the same format as that of multimedia stream of the apparatus disclosed by Nakamura et al.

It is desirable that multimedia streams are received from one or more satellite transponders in order to improve quality and add more service within a given bandwidth (column 1 lines 43-45). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Arsenault et al. in which, multimedia streams are received from one or more satellite transponders, into Nakamura and Langbergs' apparatus so as improve quality and add more service within a given bandwidth.

- With regard claim 23, Nakamura et al. and Langberg et al. disclose all of the subject matter as described in the above paragraph except for specifically

teaching multimedia streams are received from one or more satellite transponders.

However, Arsenault et al. teaches that multimedia streams are received from one or more satellite transponders (column 1 line 43 – column 2 line 3 and column 3 lines 5-67). Note that the RF signal received by the satellite transponder or cable is converted to a multimedia stream MPEG2 that has the same format as that of multimedia stream of the apparatus disclosed by Nakamura et al.

It is desirable that multimedia streams are received from one or more satellite transponders in order to improve quality and add more service within a given bandwidth (column 1 lines 43-45). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the apparatus as taught by Arsenault et al. in which, multimedia streams are received from one or more satellite transponders, into Nakamura and Langbergs' apparatus so as improve quality and add more service within a given bandwidth.

Allowable Subject Matter

10. Claims 9, 12, 13, 15, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Reference(s) US 5,481,543 and US 5,835,498 are cited because they are put pertinent to the a receiver having decoder with buffer. However, none of references teach detailed connection as recited in claim.

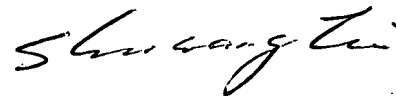
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang



SHUWANG LIU
PRIMARY EXAMINER